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ABSTRACT

Achievement assessment has recently become an issue of major public concern. Concurrent with demands which have placed increased reliance on measurement and assessment have been criticisms of present testing practices. The effects of sociocultural and motivation variables on achievement patterns of 7,000 Illinois school children were investigated. Achievement, conceptualized as the students' sense of competence (evaluation anxiety and achievement attributions) and motivation goals, was assessed through the use of standardized testing instruments. Results indicated that: (1) sociocultural background directly affects motivation and performance; (2) motivational effects serve to reinforce or enhance the effects of sociocultural background on performance; and (3) both objective performance and the interpretation of that performance affect motivation. (Author/HLM)

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Sociocultural and Motivational Considerations in the Assessment of Educational Achievement: A Theoretical Overview

Martin L. Maehr

This is an initial report of an intensive and massive study of the sociocultural origins of motivation and achievement through the school years. By massive, I refer to the fact that the achievement patterns of approximately 7,000 school children across the State of Illinois are sampled each year. By intensive I refer to the fact that not only is a wide variety of information accumulated (see Table 1), but that patterns and associations are subsequently examined both experimentally as well as ethnographically. This symposium focuses primarily on one facet of this larger project, namely with the effects of sociocultural and motivational variables in one very critical school achievement situation: the achievement testing situation. The purpose of this paper is to set forth the general and theoretical background for the answers that follow.

Insert Table 1 about here

General Background and Rationale

In the last several years increasing attention has been devoted to assessment of school achievement. As a matter of fact, a national debate (see for example, Wirtz, et al., 1977) has arisen over the nature, meaning and causes of a decline in achievement test scores. Parallel and clearly related to this, the suggestion is made that children should demonstrate "minimum competencies" for graduation and/or promotion from one grade to the next. All in all, the assessment of achievement has become an issue of major public concern.

Concurrent with demands, which have placed increased reliance on measurement and assessment, have been vigorous criticisms of present testing practices (Houts, 1977; National School Boards Association, 1977; Quinto & McKenna, 1977). Although public controversy over testing is not new (Cronbach, 1975), the criticism in recent years has become ever harsher. Moreover, the debates in the past decade or so have not been limited to academics and journalists. State and national legislatures, the general public, and the courts have all been involved. Especially when considering the performance of minority group children, the debates have revolved around the biased nature of the tests, their unfairness to certain groups, as well as their general inadequacy to assess school achievement appropriately. This symposium is especially concerned with such testing bias. It is concerned with a special form of test bias that has generally gone unrecognized in this country's testing movement: motivational bias.

There is increasing evidence that motivational factors may be a very important source of test bias (Hill, 1977; in press). Moreover, recent, renewed emphasis on achievement testing and the introduction of new evaluation programs, such as minimal competency testing, are the very elements that are likely to make motivational test bias an even stronger factor in the assessment of student's achievement. As the consequences of doing poorly or failing a test become more serious (not being promoted, not graduating, etc.) and more public, test pressure and negative motivational dynamics should become stronger. Of particular importance is the strong possibility that such test bias is likely to be strongest for students who do not perform well on standardized tests as now given and who suffer the

the consequences of test failure the most: the anxious, often low-income/ minority students. All of this leads to the necessity of giving further and intensive consideration to the topic of this syposium.

Theoretical Framework

Granted that it may well be worth examining how motivation mediates test performance, particularly in the case of minority group students, precisely how does this occur? What motivational variables are critical? What is the theoretical rationale which guides the search?

In general, the theoretical framework of the project involves linkages among three classes of variables, as outlined in Figure 1. The essential focus of the project, however, is on intervening motivational variables, termed here "achieving orientations." The overall guiding hypothesis is that such internalized psychological processes play an important mediational role in determining the effects of sociocultural background and achievement context on achievement behavior (cf. Maehr & Nicholls, in press). Moreover, this mediator role follows a developmental pattern. Not only do achieving orientations per se change with age, they also increase in importance with age. Briefly and simply put, in the course of schooling an individual develops a sense of competence and acquires certain achievement goals. These two factors play an increasing mediational role in determining achievement through the school years. They are likewise of importance in that very special, very focused, achievement situation: the standardized test. Simply put, children who lack a sense of comptence or do not share the achievement goals of the classroom

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Insert Figure 1 about here

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are unlikely to demonstrate what they know on a standard achievement test. Both will exhibit inappropriate test-taking behavior in the standardized test-taking situation which is currently relevant. Because this situation essentially turns off and/or inhibits the best performance of these students, we speak directly of a motivational bias. It is quite possibly ever bit as serious as the much more commonly recognized bias in substance or test content.

While this is the essential theoretical thrust of the project, it is necessary to clarify further, and in more operational terms, how "achieving orientations" are conceptualized. As already indicated, two categories of achieving orientations are proposed: the one termed "sense of competence" and the other "achievement goals." A comment about each of these is in order.

Sense of Competence

Operationally, the term "sense of competence" is our short-hand label for two related variables, each of which has considerable precedent in the literature: evaluation anxiety and achievement attributions. There is point and purpose in considering the effects of each separately on testing behavior and I will explain why shortly. However, there is also point and purpose in considering these two variables in relationship to each other, perhaps ultimately reducing them to one essential construct. That too will be pursued--briefly in this paper, but with considerable intensity in the project itself. In any case, a cursory review of how these variables may affect achievement behavior, including particularly performance in testing situations, is in order.

Achievement Attributions. Attributional analyses of achievement behavior are currently very popular (cf. Zuckerman, 1979). Briefly summarized, such

analyses stress the importance of the individual's perception of the reasons for success or failure in the performance of a task. Following the work of Bernard Weiner (cf. for example, 1977) it is generally assumed that in an achieving situation the person characteristically attributes perceived success or failure to one of four factors: ability, effort, task difficulty, or luck. Parenthetically, the attributional possibilities are likely much more diverse than that (cf. Falbo & Beck, 1979), but the important point is that different attributions are likely to be associated with quite different motivational patterns. In particular, there is extensive information that ability attributions may be especially important in this regard. Thus, for example, the person who attributes success to ability and failure to an external factor such as bad luck, is likely to exhibit quite different achievement patterns than someone who feels that failure is due to his or her own lack of ability. Overall, individuals should be more attracted to and less fearful about situations in which they believe that their competence can and will be demonstrated (cf. Kukla, 1978; Maehr & Nicholls, in press). One would expect, then, that testing situations would be attractive to (cf. Fyans & Maehr, in press) individuals who essentially believe that they have a good chance of doing well. These situations allow them to demonstrate their competence at a challenging task, thereby enhancing their sense of competence. Conversely, individuals who essentially state their lack of confidence by attributing failure in school-related tasks to lack of ability and success to luck are not so likely to relate positively to the testing situation. In other words, students who do not believe in their ability to succeed at school tasks will orient to such tasks in a way that they simply will not demonstrate the best they can do. Moreover, and this is our special interest, such "achievement inhibitions"

are possibly most severely demonstrated in the standard testing situation. All the reservations about one's ability to perform well on school tasks are likely brought to a central focus in this special kind of situation.

Evaluation Anxiety is a construct with a long and productive history in psychology (see for example, Hill, 1972; in press). Generally, certain individuals are found to have developed a fear of being evaluated, perhaps a fear of failure (cf. Hermans, terLaack, & Maes, 1972; Atkinson & Raynor, 1974), which causes them to avoid achieving situations or (when forced into them) to perform maladaptively. In the present project, evaluation anxiety (and standard measures for indexing it) will be considered first of all as an indicator of negative emotions toward achievement which eventuate in the tendency to exhibit deteriorated performance and generally maladaptive behavior under testing conditions (cf. Hill, 1977; Hill & Eaton, 1977). It is, or may be viewed, as an emotional reaction which parallels attributions and is similarly predictive of variation in achievement behavior. Essentially, evaluation anxiety should complement and enhance achievement attributions in predicting achievement behavior. Indeed, as one examines the items that are used to elicit achievement attribution and identify evaluation anxiety, an underlying common theme is evident. As I have already suggested, both constructs appear to tap what might be termed a "sense of competence." When a student says that when he succeeds in school he typically does this because he is smart, he is expressing his belief in his competence. Similarly, children who worry about how they will respond on tests are likely expressing the feeling that they are lacking in competence. In other words, the two indices may be getting at the same thing in slightly different ways or at different facets of the same thing. On a priori grounds

this seems possible enough, but an empirical exploration of the commonalities of attribution and evaluation anxiety need to be examined. Perhaps two construct systems can be reduced to one. Perhaps one variable is dependent on the other. Thus, it may be best to consider "sense of competence" as the critical mediating motivational variable. But that is a possibility to be pursued, not a fact to be asserted. The point is that this possibility will be pursued as the shared variance of achievement attributions and evaluation anxiety will be considered and analyzed.

Achievement Goals

Causal attributions, evaluation anxiety, sense of competence, and continuing motivation have all been assessed in the early phases of the project and their interrelationships will be reported later in this symposium. Not part of the data set as yet is another variable, one that we are increasingly viewing as critical: the goals held by the student in reference to the achieving situation. Whatever effects an individual's sense of competence may have, it will most likely have these dependent on the goals that the individual happens to hold for the achieving situation in question. If a student holds the goal of demonstrating to himself and others that he is competent in math his performance on a math test is likely to be different from someone who has no such goal. The importance of considering goals can be illustrated from several different literatures (see for example, Maehr & Nicholls, in press) but is so much in accord with common sense that it is unnecessary to do so. Self-evidently, individuals of different ethnic background likely hold different achievement goals in what seem to be similar achievement tasks. Similarly, it seems that girls and boys approach school tasks with quite different goals.

As Maehr and Nicholls argue, girls seem to be more concerned to demonstrate that they are "well intentioned," they strive to show that they have tried hard. Boys, on the other hand are more likely to endeavor to appear competent. But in any case the "bottom line" is that any comprehensive analysis of achievement behavior can hardly ignore the fact of goal variation. The problem is one of good theory and adequate measurement. As of this point, we can only stress the importance of this variable, reference a first step in theory building (cf. Maehr & Nicholls, in press) and promise that the technology is being developed.

Conclusion

Thus far I have outlined the general rationale and essential thrust of the project. Before concluding, it is well that I relate what I have said to the more specific concerns to be discussed by my colleagues, Fyans and Hill. At this stage two questions are inevitably paramount: (1) Do these mediators in fact appear to play the hypothesized mediator role in testing situations? (2) Assuming they do, is there anything that we can do about it? Dr. Fyans will deal with the former question and Dr. Hill with the latter one but allow me a brief preliminary comment about each in anticipation.

Do Achieving Orientations Affect Test Performance?

Our answer to that question, of course, is "yes." In fact, our answer involves a more complicated, hypothetical causal sequence such as set forth in Figure 2. While the predictions implicit here are rather straightforward, perhaps self-evident, certainly not surprising, they may, nevertheless deserve a comment or two.

Insert Figure 2 about here

First, it is hypothesized that sociocultural background has direct affects on both motivation and performance. Moreover, it is hypothesized that the motivational effects serve to reinforce or enhance the effects of sociocultural background on performance. Thus, children from certain sociocultural backgrounds may be limited in skills relative to their peers in a given classroom. Not having these skills has motivational as well as performance effects. It is not only that their performance will likely be at a certain level in objective terms; that performance will characteristically be interpreted by a significant other, such as a teacher, and this interpretation of course is critical in motivational development. Not only would this interpretation involve success-failure feedback, it would also likely involve causal attributions, suggestions to the child that he or she succeeded because they were smart or failed because they were dumb. Moreover, the organization of the classroom may encourage invidious comparisons.

In sum, it is not only objective performance per se that will affect motivation but the interpretation of that performance. Additionally, one may note that such "interpretations" are quite possibly determined by stereotypical expectations of teachers for children of certain sociocultural backgrounds. Thus, there is some reason to believe that some teachers may have certain expectations for children based on their knowledge of their background quite apart from any objective assessment of their capacity per se (cf. Rubovits & Maehr, 1971, 1973). In any case, all of this serves to emphasize that cognitive <u>interpretations</u> of performance become increasingly important as the child performs in school. Similarly, the aspect associated with such interpretations, such as the fear of being evaluated, actually emerges as an important phenomenon which enhances or inhibits test performance. Thus, at some point one may expect "achieving orientations" to serve as mediating variables in the relationship between

sociocultural background and performance. Finally, although it is not clearly expressed in Figure 2, it is obvious that the mediating role of motivational factors should increase with grade level.

That in brief is a first and major concern of the project. It is one that will be elaborated on by Dr. Fyans.

Can Motivational Bias in Testing be Reduced?

Not surprisingly, our answer to that question is likewise "yes." To give such an answer it is necessary to examine the special and unusual nature of the testing situation, to see why it might exacerbate any negative orientations toward achievement and then determine whether it is possible to intervene either by changing the person or the situation. Professor Hill will elaborate on this point further and report his research devoted to these particular issues.

A Concluding Unscientific Postscript

Finally, I cannot resist a word about the wider implications of this general area of study. Few areas of research seem more natural or inevitable than the area of culture and achievement motivation. Talk to any teacher who must deal with children of diverse sociocultural background and it is motivation that is their prime concern. Most of us are aware of the dramatic work 15 or 20 years ago by McClelland (e.g., 1961) and others (see, for example, Rosen, 1959). Indeed, that is the work that is most often cited--not always approvingly. However, it is surprisingly difficult to find contemporary examples of culture and motivation research. In particular, it is surprising that amidst an increasing concern with ethnicity and subcultural patterns in the U.S. there is so little research on culture and achievement motivation. One reason may be the paucity of good theory; another may be the inadequacy of methodology. The present symposium does not presume to lay the multivaried problems in this regard to rest. What we do intend to do is present an initial re-analysis and preliminary

data which may ultimately serve as a basis for renewed work on culture and achievement motivation. Moreover, we do not apologize for focusing first on the standardized testing situation. That is a socially important situation--perhaps more so than it should be. Moreover, it is a situation in which what we term "motivational biases" are likely to be most readily observed. Testing cannot be the end of culture and motivation research but it serves as an interesting beginning.

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Table 1

Type of Variables Assessed in the IOE/UIUC Project

Origins of Achieving Orientations			Achieving Orientations	Achievement Behavior
Sociocultural	Developmental	Contextual		
Parent's Education	Age/Grade	Time Pressure	Causal Attributions	Test Performance
Ethnicity		Social Comparisons	Evaluation Anxiety	Continuing Motivation
Size of Community/ School			Sense of Competence	Interests/Attitudes
		Multicultural Program Emphasis		Overall Classroom Performance

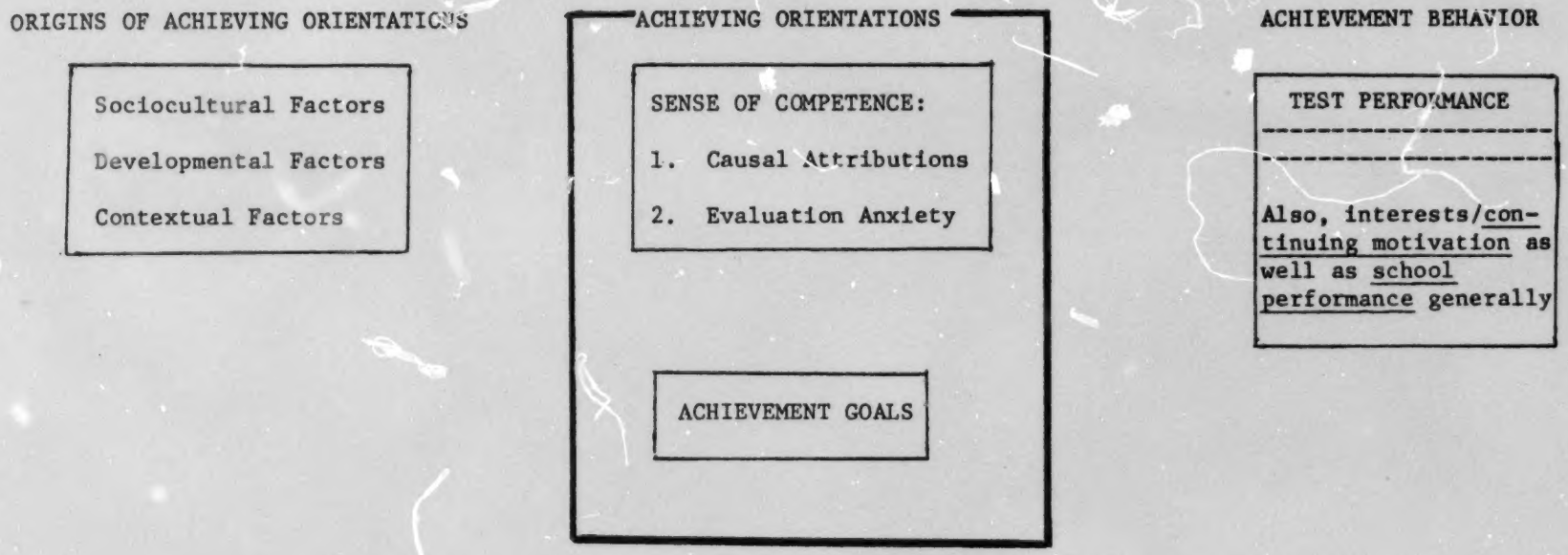

Figure 1. A schematic drawing of the general causal sequence envisioned in the IOE/UIUC project

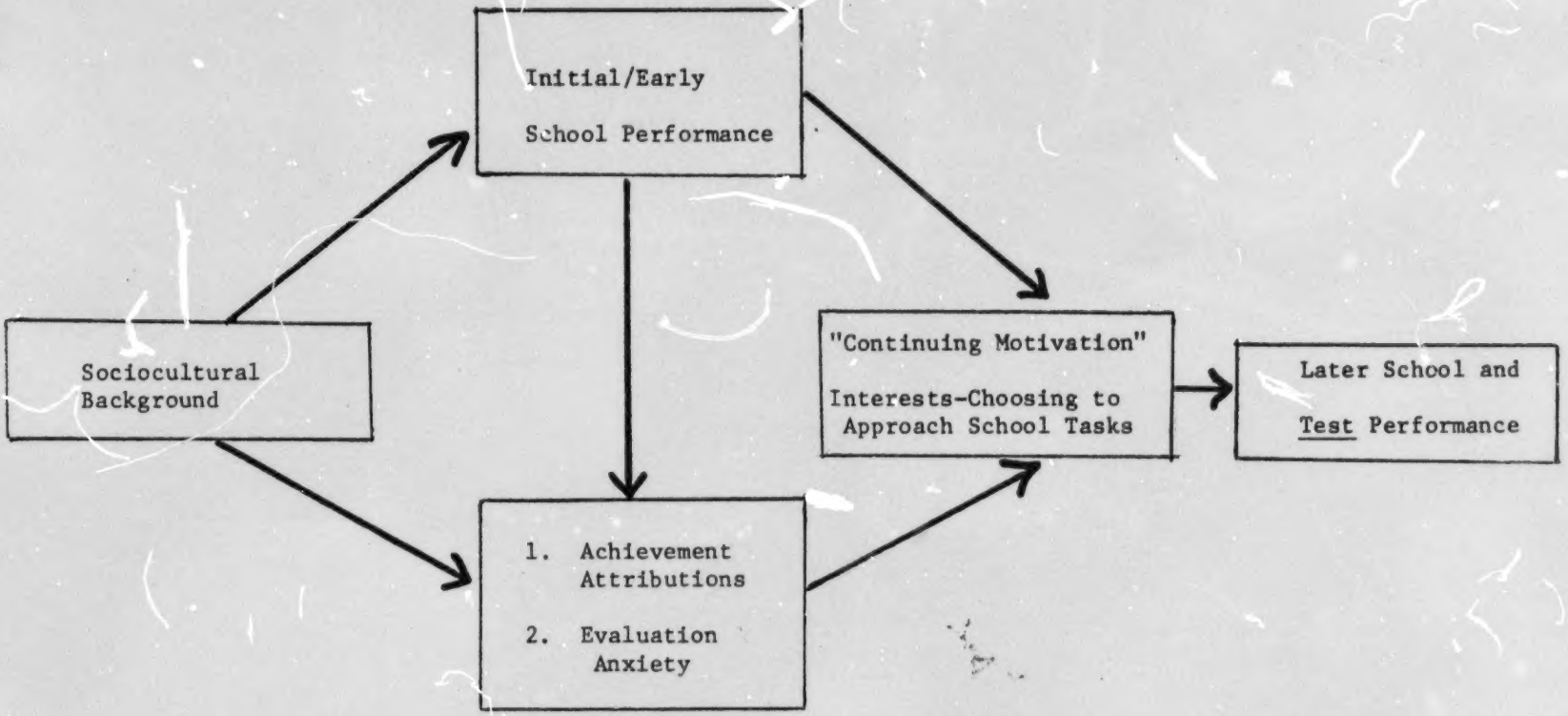

Figure 2. Path Diagram of Hypothesized Relationships Between Variables in the IIEP Survey